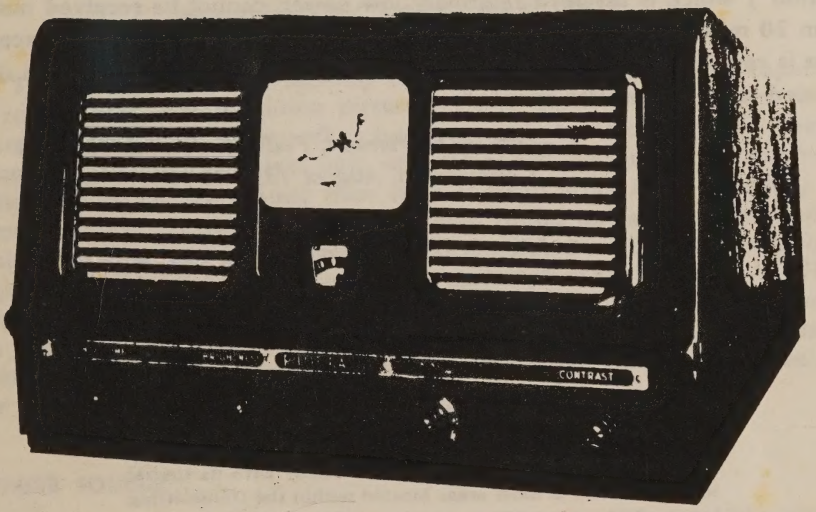
OPERATING INSTRUCTIONS

PILOT RADIO

CANDID T-V

(MODEL TV-37—AC OPERATION ONLY)



Pilot

RADIO CORPORATION

Long Island City 1, N. Y., U.S.A.

Many of the (consumer) complaints received by the Commission arise from attempts to receive television stations far beyond their normal range. Due to the nature of the frequencies used, television reception is possible only if the receiver is located within a relatively short radius of the transmitting station. At the present time, the maximum range of television reception varies from 20 miles to 40 miles, depending on the type of station involved and the amount of power it is presently using. In general, a television station located in a large city (a "metropolitan station") using full power can be received up to 40 miles from its transmitter. However, if the metropolitan station is using less than full power, its range may not be more than 20 miles from its transmitter. Many "metropolitan stations" at the present time are using temporary low-power facilities pending receipt of new equipment which will permit them to use the full power assigned to them. Likewise, a television station located in a smaller city (a "community station") which is assigned relatively low power, cannot be received more than 20 miles from its transmitter. Though long-distance television reception is reported on occasion, this is a "freak" condition and cannot be depended upon for regular service."

—Official Statement, Federal Communications Commission, August 13th, 1948

MANUFACTURER'S NOTICE

The Model TV-37 will operate satisfactorily with its special indoor antenna in most areas located within the transmitting range of a "metropolitan or community station." In other areas, due to noise interference or weak signal reception, an outside antenna installation may be neecssary.

PILOT RADIO CORPORATION

PILOT RADIO

CANDID T-V MODEL TV-37

PRELIMINARY CONSIDERATIONS

The Candid T-V is an expertly engineered television receiver, capable of reproducing high definition pictures of fine detail and brilliance with accompanying sound. Every effort has been made by Pilot Radio to create a small, compact, lightweight unit, with "large set" performance standards, which can be carried readily from room-to-room, from house-to-house, or from television city to television city. Design, tuning and adjustment of controls have been radically improved and simplified so that you will find enjoyment and enlightenment in the easy operation of the Candid T-V. With its smart leatherette carrying case and antenna, the Candid T-V represents an outstanding contribution to the television industry as the first "quasi-portable" television receiver and the perfect modern traveling companion for the television enthusiast.

POWER SOURCE

This receiver is designed for operation on 60 cycle, 105 v. to 120 v. alternating current (AC) only. Do not attempt to operate the receiver from any other type of power source. If in doubt as to the type of power available at the wall outlet, consult your local power company for details.

TUNING COVERAGE

The Candid T-V covers all twelve television broadcasting channels in present use, as allocated by the Federal Communications Commission. A quick check of the radio log in your local newspaper will furnish you with complete information concerning the broadcast schedule and channel number of the television stations in your area.

Channel Number		*Frequency in Megacycles*
1	(Not in use)	
2		54 to 60
3		60 to 66
4		66 to 72
5		76 to 82
6		82 to 88
7		174 to 180
8		180 to 186
9		186 to 192
10		192 to 198
11		198 to 204
12		204 to 210
13		210 to 216

OPERATION

FRONT PANEL CONTROLS

Scanning across the front panel from left to right, the controls and their functions are as follows:

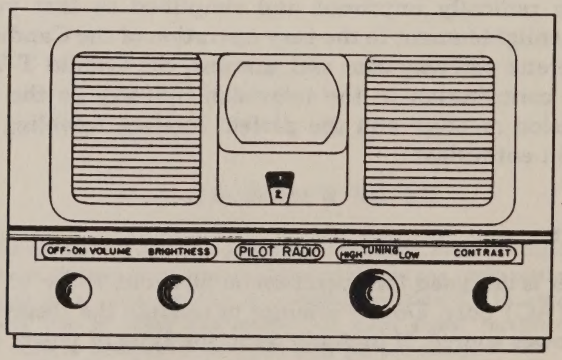


FIGURE 1.—Front panel controls

Off-On Volume—This control serves the dual purpose of power switch and sound volume control, similar in operation to such controls on standard radio receivers. In the extreme counter-clockwise position the power switch and the receiver is at OFF. To turn on the receiver, rotate this control clockwise until a click is heard. Continuing to turn the control clockwise increases the level of the sound accompanying the television picture.

Brightness—This control, as its name implies, adjusts the brightness (background lighting) of the television picture. It is actually the counterpart of the tone control in a standard radio receiver. As you well know, the adjustment of the tone control in a standard radio receiver either accentuates or attenuates the high or low tones to suit the taste of the listener, and there is only one correct setting which produces so-called "high-fidelity." In television, the BRIGHTNESS control performs the same function for the white and black portions of the television picture. Advancing this control clockwise will accentuate the white portions of the picture, and inversely turning its counter-clockwise will darken the black portions of the picture. Initially the correct setting of the BRIGHTNESS control is the one that produces a very faint glow on the television screen, when no station is tuned in. The signal transmitted from the television station will then automatically set the normal and lifelike background level of the television scene. The control can be changed further, if so desired, to suit your own individual requirements. However, too high a setting of the BRIGHTNESS control will result in a "washed out" picture and the appearance of white tracer lines across the screen (Refer to Fig. 4). The setting of the BRIGHTNESS control should not be affected by a change in room illumination.

Tuning-High Low—This set of controls consists of a double knob with correlated functions. The larger rear knob (TUNING) is the television station selector, similar in operation to the *continuous* tuning knob on a standard radio receiver. This tuning control can be rotated continuously either clockwise or counter-clockwise, and is synchronized with the channel dial scale located below the picture tube. The smaller front knob (HIGH LOW) is a band switch with two positions: LOW (clockwise) covering channels 2 through 6, designated by the white portion of the dial scale; and HIGH (counter-clockwise) covering Channels 7 through 13, designated by the black portion of the dial scale.

Contrast—This control adjusts the shading of the television picture and permits you to choose a pleasing range of shades from intense black to clear white. In addition, the CONTRAST control is actually the exact counterpart in television of the volume control in a standard radio receiver, since it regulates the strength of the television signal received which results in different shadings of the picture. By rotating this knob clockwise, the strength of the television picture is intensified, and the dark portions of the picture will appear blacker and the bright ones whiter. Since the CONTRAST control affects in part the shading of the television picture, it should be adjusted to correspond with the setting of the BRIGHTNESS control. Too high a setting of the CONTRAST control, in particular, should be avoided in order to prevent distortion, instability and a loss in gradation of shading from deep black to full white. A little practice in attaining a good balance between settings of the BRIGHTNESS and CONTRAST controls will enable you to obtain quickly the type of picture presentation most pleasing to your individual taste. (Refer to Figs. 2, 3 and 4).

INITIAL OPERATING PROCEDURE

The Candid T-V comes complete with picture tube and is ready for immediate operation upon purchase. Before operating the receiver for the first time, unwrap the flat wire "dipole" antenna which you received with your unit, and connect the free twin leads of the antenna to the two screw terminals located at the rear of the receiver (Refer to Fig. 6).

Extend the antenna to its full length and using thumb tacks, scotch tape, straight pins or similar fasteners, attach the cross band of the antenna as high as possible near a window, preferably one which faces directly towards the television broadcasting tower. For best results keep the power line cord separate and away from the antenna leads. The indoor flat wire antenna has been designed for satisfactory reception of most television signals, particularly on the low band (channels 2 through 6). For further uses of this antenna and descriptions of other types of antennas, refer to the chapter below ANTENNA INSTALLATIONS.

To tune in the receiver for the first time, plug the power cord into a wall socket with suitable AC source.

1. Turn the OFF-ON VOLUME switch clockwise (right) until a click is heard. Allow 15 to 20 seconds for the receiver to warm up.
2. Turn both the BRIGHTNESS and CONTRAST control to the extreme counter-clockwise position (left).
3. Determine from your local newspaper the channel number of the television station in your area whose programs you wish to receive.
4. Set the HIGH LOW switch to the proper band covering the channel number of your television station (LOW—Channels 2 through 6; HIGH—Channels 7 through 13).
5. Rotate the TUNING control until the proper channel number appears approximately in the center of the dial window located below the picture screen.
6. Turn up the BRIGHTNESS control clockwise (right) until the screen glows faintly.
7. Then, turn up the CONTRAST control clockwise (right) until the picture detail begins to show itself.
8. *Slowly rotate the TUNING control clockwise (right) through the television channel until the picture just begins to fade out slightly.* At this point you will secure the sharpest and clearest picture. Slight readjustments of the CONTRAST and BRIGHTNESS controls may be required to secure a picture which best suits your individual taste. It must be pointed out that the sound accompanying the television picture may contain a "buzz" if either the picture is improperly tuned to or if the CONTRAST control has been set too high. This

"buzz" does not indicate any defect in your television receiver. It can generally be eliminated by proper tuning and proper adjustment of the CONTRAST control.

9. Turn up the volume control clockwise (right) to the level of sound desired.
10. To change from one television station to another within the same band, merely rotate the tuning control to the desired channel number, and re-adjust the BRIGHTNESS and CONTRAST controls, if required.
11. To shut the receiver off, turn the OFF-ON VOLUME control counter-clockwise (left) until a click is heard.
12. With the controls set as described above, it should not be necessary to repeat the entire tuning procedure each time the receiver is turned on. Only a slight readjustment of BRIGHTNESS and CONTRAST should be required for each individual station.

NOTE: If any picture faults are experienced during initial operation, such as vertical or horizontal motion, improper centering, blurred or out-of-focus, refer to chapter below on operation of rear cabinet controls.

OPERATING TECHNIQUE

The following instructions and illustrations indicate the most common picture effects or "faults" which may occur during tuning, and how they are overcome by the proper adjustment of the front panel and rear cabinet controls.

FRONT PANEL CONTROLS

CORRECT PICTURE

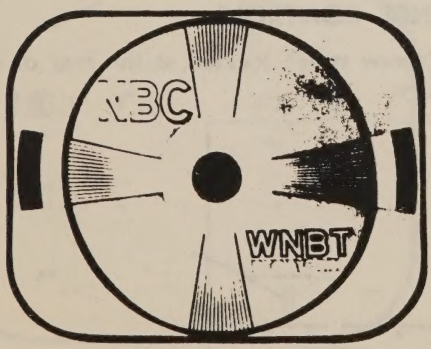


FIGURE 2.

A test pattern of this type is usually broadcast before a television program to provide you with a means of checking the adjustment of your receiver. When the receiver is correctly adjusted, the pattern will be clear and steady and five distinct shades (black, dark gray, medium gray, light gray and white) will be observed at the center or outer rim of the pattern.

TOO MUCH CONTRAST

FIGURE 3.

To make the picture lighter and show less contrast, turn the CONTRAST control counter-clockwise.

A slight readjustment of the BRIGHTNESS control may be required.

PICTURE TOO LIGHT

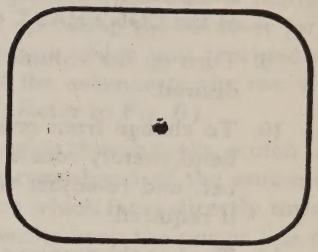


FIGURE 4.

To bring up the picture intensity and obtain darker reproduction of the black lines, turn the BRIGHTNESS control counter-clockwise.

A slight readjustment of the CONTRAST control may be required.

SOUND BARS

FIGURE 5.

Distorted sound may be accompanied by "sound bars" appearing on the screen. The bars generally flicker across the picture in step with the sound, and can be eliminated by carefully adjusting the TUNING control.

REAR CABINET CONTROLS

The five control adjustments (screw type) located at the rear of the receiver have been set at the factory.

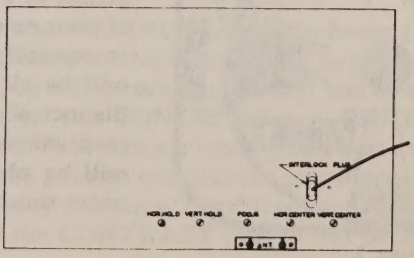


FIGURE 6.—Rear Cabinet Controls

However, their settings are subject to accidental change with handling, and may have to be checked and readjusted at the time of initial use of the receiver.

Scanning from left to right, as you face the rear of the receiver, the rear cabinet controls are: HORIZONTAL HOLD, VERTICAL HOLD, FOCUS, HORIZONTAL CENTER, VERTICAL CENTER.

HORIZONTAL HOLD MISADJUSTED

FIGURE 7.

FIGURE 8.

The HORIZONTAL HOLD control should require little attention unless disturbed. The picture will usually pull itself into position automatically in less than a minute after the set is turned on, and should stay in synchronism for the duration of use. However, if the HORIZONTAL HOLD control is out of adjustment, several overlapping images or even a series of slanting lines will appear on the screen. In addition, in very noisy locations, the picture may tend to "tear" due to the excessive noise (Refer to Fig. 8). To correct, turn the CONTRAST control counter-clockwise until the picture is barely perceptible. Then turn the HORIZONTAL HOLD control fully counter-clockwise. Slowly advance the HORIZONTAL HOLD control clockwise until the picture starts to "tear", and then turn the control back counter-clockwise approximately one eighth of a turn at which position you will find the most stable picture.

VERTICAL HOLD MISADJUSTED

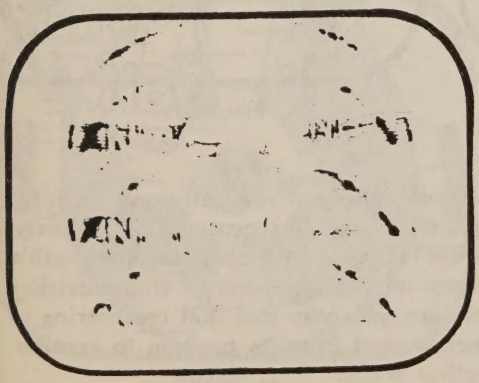


FIGURE 9.

When the VERTICAL HOLD control is out of adjustment, the picture appears to be moving either up or down on the screen. To correct, turn the CONTRAST control counter-clockwise until the picture is barely perceptible. Turn the VERTICAL HOLD control clockwise until the picture just starts to roll upwards. Then turn back this control counter-clockwise approximately one eighth of a turn at which position you will secure the most stable, single stationary picture.

FOCUSING MISADJUSTED

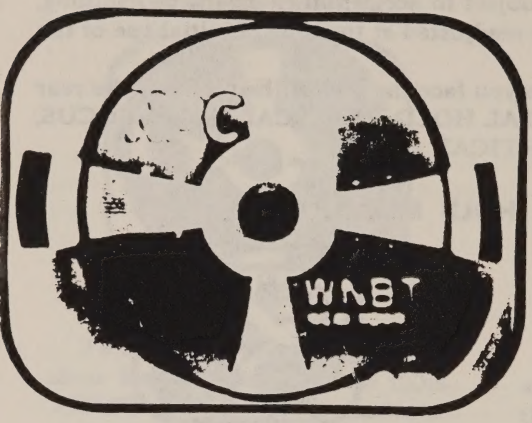


FIGURE 10.

A poorly focused or blurred picture can be corrected by properly adjusting the FOCUS control. The control position that produces the clearest picture is the correct one.

HORIZONTAL CENTERING MISADJUSTED

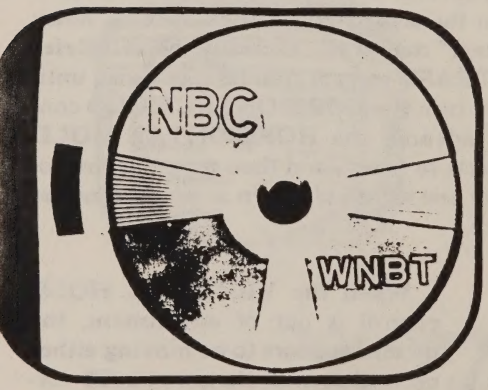


FIGURE 11.

VERTICAL CENTERING MISADJUSTED

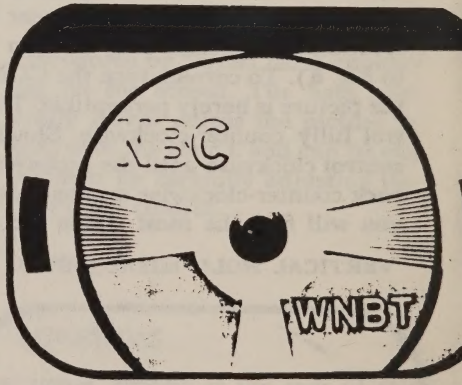


FIGURE 12.

A picture which is out of position horizontally or vertically, and partially cut off by the frame of the viewing screen, may be recentered by properly adjusting the HORIZONTAL or VERTICAL center controls. The earth's magnetic field has a definite influence on the centering of the television picture on the receiver screen. Therefore, you may find that recentering is necessary after the receiver has been moved from its position to another position, to another room, or to another house.

INTERFERENCE

While every known means of suppressing interference has been incorporated in the Candid T-V, we would like to call your attention to the fact that in television reception there are problems of "man-made" interference, static, reflection and location, all of which affect visually the reproduction of the picture.

Interference may be caused by flashing or neon signs, electric razors, automobile ignition systems and by electrical machines such as motors in elevators, fans, refrigerators and trolley cars. Such interference is apt to cause spots in the picture or up and down movement. Medical shortwave diathermy equipment may cause speckled or herring-bone bands across the picture. Aircraft passing in the vicinity may cause fluctuation in picture brightness and possibly in sound volume. Reflections from buildings, steel structures and mountains may cause a double image on the screen. Interference from nearby shortwave radio stations or from poorly shielded receiving equipment may cause diagonal streaking across the picture. Areas far removed from the television broadcasting station may be hampered by weak signal strength causing a "snow" effect in the picture.

All these problems must be taken into consideration and properly evaluated by you. In some instances relocation of the antenna or use of a more improved antenna system may eliminate some of the interference. It is often very difficult, however, and some times impossible, to prevent this interference in some installations.

The following illustrations show effects of the type caused by local interference.

IGNITION INTERFERENCE

FIGURE 13.

Automobiles in the vicinity are apt to cause speckles on the picture or, when their effect is severe, may cause vertical picture movement. Electrical motor-driven appliances cause similar effects.

FIGURE 14.

Multiple images, sometimes known as echoes or ghosts, are caused by signals arriving at the receiver both direct and by other paths, including reflection from a building, steel structure or mountain. These "ghosts" may be eliminated by either relocating or reorienting the television receiver antenna.

WEAK DIATHERMY INTERFERENCE

FIGURE 15.

STRONG DIATHERMY INTERFERENCE

FIGURE 16.

Electrically operated medical equipment, such as diathermy apparatus will produce a herring-bone pattern across the picture. When severe, due to close proximity, its effect is very marked and may even obliterate part of the picture.

R-F INTERFERENCE

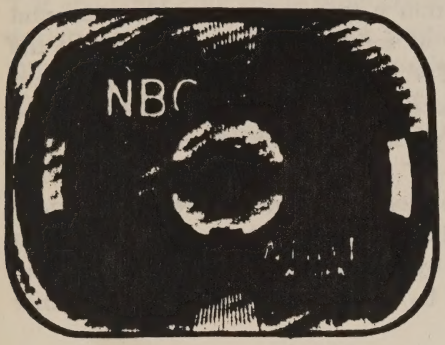


FIGURE 17.

Transmitting and receiving short-wave radio equipment may cause interference in the picture in the form of moving ripples.

WEAK SIGNAL

FIGURE 18.

When your installation is near the limit of the area served by the transmitting station, the picture may not hold steady on the screen. This is due to lack of signal strength from the transmitter.

ANTENNA INSTALLATIONS

As we have explained previously in the chapter on INITIAL OPERATING PROCEDURE, a special indoor, flat wire "dipole" is supplied with your Candid T-V. In most areas within a television city, this elemental antenna system should be sufficient for satisfactory reception due to the improved sensitivity of the Candid T-V. We suggest that you experiment with the use of this antenna, and relocate it, if necessary, from place to place until you have determined the best possible location. Since the flat wire "dipole" was designed for best "over-all" reception of most television stations in general, you may find that its performance is not entirely satisfactory for television stations in the upper end of the high band (channels 7 through 13). This condition can be rectified by shortening the top "arms" of the antenna. In weak signal areas, it will be easier to receive low band rather than high band television stations.

It may be necessary, however, to use a more improved antenna system, if you are situated in a difficult reception area which experiences interference as described in Figures 14 to 18, or in a location distant from the television broadcasting station. The companion carrying case to the Candid T-V, which can be purchased from your Pilot Radio dealer, is equipped with a telescopic, steel "all channel" antenna that will add immeasurable improvement to television reception. Complete information on the use of this antenna is supplied with the carrying case.

Your authorized Pilot Radio dealer will be most willing to advise you in the choice and installation of proper antenna of a more permanent nature.

CARE OF THE RECEIVER

Use only a clean dry cloth to clean the window in front of the picture tube. Certain cleaning solutions will fog the clear plastic material from which this window is made.

The receiver is provided with adequate ventilation holes in the top and sides of the cabinet. Care should be taken not to allow these holes to be covered or ventilation impeded in any way.

SERVICE

Do not remove the receiver from its cabinet under any condition. In the event that the tubes do not light up at all, check carefully and make certain that the INTERLOCK plug at the rear of the receiver is firmly set in its

receptacle (Refer to Fig. 6). If any trouble is experienced which cannot be corrected by following the instructions contained in this booklet, please contact the Pilot Radio dealer from whom the set was purchased. The Candid T-V and other Pilot Radio products are sold only through carefully selected dealers authorized by the Pilot Radio Corporation—dealers of recognized integrity in their respective communities with a reputation for establishing and maintaining customer satisfaction and good will. Your service problems and inquiries will receive prompt attention by an authorized Pilot Radio dealer.